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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/259,179	02/26/1999	STANLEY A. SCHNEIDER	REALP001	4970

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EXAMINER	
INGBERG, TODD D	

ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 08/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant
09/259,179	S.A. Schneider et al
Examiner	**Art Unit**
Ingberg	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 5/20/2002.

2a) ☐ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 23-45 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 23-45 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 2/26/99 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Invention II with Claims 23 - 45 have been examined.

Claims 1 -22 (Invention I) and Claims 46-50 (Invention III) were not elected and can be subject to a divisional application.

Election/Restriction

1. Initially a five way restriction was imposed on the case. The Restriction was deemed complex by the Examiner and a Office action was sent on March 15, 2002. Applicant called for an interview but the Examiner requested the response in writing and promised a telephonic interview if the proposed response was not accepted. Applicant's response requests a three way restriction with the following grouping. Applicant's response is acceptable. An office action follows.

Invention I -Claims 1 - 7, 8 - 14, 15 - 18, 19-21, and 22 are drawn to " A control system" , with an internal data structure , classified in class 700, subclass 1.

Invention II - Claim 23-30, 31- 36, 37, 38-44, 45 are drawn to an "building or designing a control system" , classified in class 717, subclass 104.

Invention III - Claims 46 - 50 are drawn to a " ... reusable interface component ...", classified in class 345, subclass 650.

** **Classification provided by the Examiner**.*

Scope of the Claimed Invention

2. The scope of the invention is an object oriented tool kit for creating a real time control system that controls devices and has the ability to alter the execution timing of the threads of the system. The scope is defined by preambles such as "A method of defining an executable image for a control system" and "A method of mapping threads available on a real-time computer to components within control system" and defining a mode of a control system.

Drawings

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed OR upon filing of a Request For Continued Examination (RCE).

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject mater in claim 34 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim 34

A method as recited in claim 31 wherein said received components are presented in a graphical user interface and said element of defining includes: selecting said each level using said graphical user interface, whereby said logical rate of execution is defined using said graphical user

interface. The underlined limitations are not found in the drawings to any detail to support the limitation in the claim.

Information Disclosure Statement

5. The information disclosure statement filed has not been considered because it was lost. Please resubmit the PTO-1449 and any non patent literature references or foreign documents that were part of the original IDS. If the IDS was US Patents only a PTO-1449 is needed.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

7. The abstract of the disclosure is objected to because it is greater than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

8.The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 26 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "visually distinguished" is not descriptive.

10. Claim 34 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "each level" is indefinite.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 23 - 30 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the commercial product Rational Rose 4.0 released in 1996 in view of Steinman et al. USPN 6,259,958 filed December 19, 1997.

Rational Corporation's product **Rational Rose C++ version 4**, released in December 24, 1996. Rational Rose C++ version 4.0 contains a *document set* containing the following documents:

- Round-Trip Engineering with Rational Rose/C++(Not used in this office action)
- **Using Rational Rose 4.0** (Referenced as **Rat-UR**)
- Extensibility Guide (Not used in this office action)
- Extensibility Reference Manual (Not used in this office action)
- UML, Booch & OMT Quick Reference for Rational Rose 4.0 (Referenced as **Rat-QT**)

The product Rational Rose 4.0 was obtained by the Electronic Information Center (EIC) of the USPTO. The product arrived shrink wrapped in a box with a Compact Disk (CD) containing the distribution software (executables and dynamic link libraries (DLLs) to perform the features and functions described in the document set. The product with the documentation set constitute a product that has been for sale or for use. The products release date for more than one than the effective filing date.

Claim 23

Rational Rose teaches using an object oriented Computer Aided Software Engineering (OO-CASE) tool for defining a mode of a control system(**Rose**, page 13, Diagram Windows - list of design tools), said method comprising: receiving a plurality of components that represent said control system (**Rose**, page 7, class view in browser) ; choosing a subset of said components to correspond to said mode (**Rose**, page 6 and 7, the ability to select from the list of classes in the browser); identifying an intuitive name for said mode and its corresponding subset of said components (**Rose**, page 7, the ability to name a class as shown in the diagram "My Class 1"); and for each chosen component in said subset (**Rose**, page 6, class view in browser), indicating in a file corresponding to said component (**Rose**, page 199, Documentation Report - documentation underlying the model) that said component is active when said control system is in said mode (**Rose**, page 7 shoes the components which have been selected "active" in the window and page 199 shows the underlying documentation for the project which is automatically generated), whereby when said control system is executing in said mode, only said subset of said components that correspond to said mode will be active (**Rose**, page 177, code generation based on OO modeling). Although, the term control system is met by the **Rational Rose** in the broadest resoanable interpretation in view of the specification as a software system for controlling a real world solution. What **Rational Rose** does not explicitely teach is the context of a control system for controlling external devices/ interfaces. It is **Steinman** who explicitely teaches the tool set as supporting interfaces to external devices such as actualors and sensors (Steinman, Figure #3) .

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Rational Rose 4.0 with **Steinman** because object oriented technology allows for linking of of the pieces of a system (**Steinman**, col 1, lines 26 - 32).

Claim 24

A method as recited in claim 23 wherein said control system is an electromechanical control system (**Steinman**, Col 4, lines 5 - 15, process controllers to control sensors and actuators).

Claim 25

A method as recited in claim 23 wherein said control system is a real-time control system (**Steinman**, Col 1, Technical Field of the Invention).

Claim 26

A method as recited in claim 23 wherein said received components are presented in a graphical user interface and said element of choosing includes: selecting said subset of components using said graphical user interface (Class browser as per claim 1), whereby said subset of components are visually distinguished from components not in said subset (**Rational Rose**, page 7, the view of the class in the subset such as "My Class 1" and the Browser list which contains all classes selected and not selected).

Claim 27

A method as recited in claim 23 wherein said received components represent a low level in a multi-level hierarchy of said control system (**Steinman,** Figure 3, sensors and actuators are receivers and attached to Application blocks in an Object Oriented system), said method further

comprising: presenting a high level of said hierarchy, said high level including said received components and a high level component; choosing a second mode for said high level component; and choosing a third mode for said control system that includes said mode and said second mode, whereby when said control system is executing in said third mode, only those components that correspond to said mode and said second mode will be active (Interpreted as the Principles of inheritance which is part of the rejection in claim 1 with the association of the software generated and the principle of Messaging in Object Oriented technology - both principles are inherent in Object Oriented technology).

Claim 28

A method as recited in claim 23 wherein said components are computer objects and said control system is implemented using object-oriented technology (**Steinman**, Col 1, Technical Field of the Invention).

Claim 29

A method as recited in claim 23 wherein said components are loaded into a real time computer, said method further comprising: executing said control system in said mode on said real-time computer (**Steinman**, Col 1, Technical Field of the Invention); and activating only those components which correspond to said mode (Interpreted as the Principles of inheritance which is part of the rejection in claim 1 with the association of the software generated and the principle of Messaging in Object Oriented technology - both principles are inherent in Object Oriented technology).

Claim 30

A method as recited in claim 29 further comprising: switching from said mode to a different mode while said control system is executing; deactivating those components that correspond to said mode; and activating those components that correspond to said different mode (Interpreted as the Principles of inheritance which is part of the rejection in claim 1 with the association of the software generated and the principle of Messaging in Object Oriented technology - both principles are inherent in Object Oriented technology).

Claim 45

Rational Rose teaches using an object oriented Computer Aided Software Engineering (OO-CASE) tool for defining a method of mapping an executable image destined for a particular computer to components within a control system system (**Rose**, page 13, Diagram Windows - list of design tools) , said method comprising: receiving a plurality of components in a multi-level hierarchy that represent said control system (**Rose**, page 7, class view in browser- also "class hierarchy" by definition); defining at least one logical executable name at each level in said multi-level hierarchy (**Rose**, page 7, the ability to name a class as shown in the diagram "My Class 1"); for each component in a level of said multi-level hierarchy (**Rose**, page 7, class view in browser), assigning said component to one of said logical executable names; and mapping said executable image destined for said particular computer through said multi-level hierarchy using said logical executable names such that a subset of said components are assigned to said executable image (**Rose**, page 177, code generation based on OO modeling),

whereby said executable image includes said subset of components (**Rose**, page 177, code generation based on OO modeling - note the reference to aggregation - a term for inherintence in Object Oriented technology). Although, the term control system is met by the **Rational Rose** in the broadest resoanable interpretation in view of the specification as a software system for controlling a real world solution. What **Rational Rose** does not explicitely teach is the context of a control system for controlling external devices/ interfaces. It is **Steinman** who explicitely teaches the tool set as supporting interfaces to external devices such as actualors and sensors (Steinman, Figure #3) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Rational Rose 4.0 with **Steinman** because object oriented technology allows for linking of of the pieces of a system (**Steinman**, col 1, lines 26 - 32).

13. Claims 31 - 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rational Rose** and **Steinman** as applied to claim 23 - 30 and 45 above, and further in view of **Gretta** et al (USPN 5,971,581).

Claim 31

Rational Rose teaches a method of mapping a thread of a processor to components within a control system (**Rose**, page 177, code generation based on OO modeling), said method comprising: receiving a plurality of components in a multi-level hierarchy that represent said control system (**Rose**, page 7, class view in browser); defining a logical rate of execution at each level in said multi-level hierarchy (**Gretta,** Figure 8 and 9A - basic blocks are components

of an executable image); for each component in a level of said multi-level hierarchy (Object Oriented implementation of Rational Rose and Steinman where the class hierarchies when instantiated into objects implement the model as per (**Rose**, page 177, code generation based on OO modeling), assigning said component to one of said logical rates (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image); and mapping said thread of said processor through said multi-level hierarchy such that at least one of said components is assigned to said thread (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image), whereby an execution rate of said thread is assigned to said least one component (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image). Although, the term control system is met by the **Rational Rose** in the broadest resoanable interpretation in view of the specification as a software system for controlling a real world solution. What **Rational Rose** does not explicitely teach is the context of a control system for controlling external devices/ interfaces. It is **Steinman** who explicitely teaches the tool set as supporting interfaces to external devices such as actualors and sensors (Steinman, Figure #3) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Rational Rose 4.0 with **Steinman** because object oriented technology allows for linking of of the pieces of a system (**Steinman**, col 1, lines 26 - 32). OO-CASE tools for developing Control Systems is intended use of the commercial product Rational Rose. However, neither references teach changing the execution control of a thread. It is **Gretta** who teaches the abiliy for a user to alter rate of execution for threads (Note basic blocks are the components of threads). Therefore it would ahve

been obvious to combine the teachings of an object oriented tools kit as taught bu Rational Rose and Steinman with Gretta's ability to control thread execution rate because the ability to control devices in an automated process is essential for proper operations.

Claim 32

A method as recited in claim 31 wherein said control system is an electromechanical control system (**Steinman**, Col 4, lines 5 - 15, process controllers to control sensors and actuators).

Claim 33

A method as recited in claim 31 wherein said control system is a real-time control system (**Steinman**, Col 1, Technical Field of the Invention).

Claim 34

A method as recited in claim 31 wherein said received components are presented in a graphical user interface and said element of defining includes: selecting said each level using said graphical user interface, whereby said logical rate of execution is defined using said graphical user interface (**Gretta** , Figures 8 and 9A show changes based on user interaction, and figure 19 shows a very specific chage using a GUI)

Claim 35

A method as recited in claim 31 wherein said components are computer objects and said control system is implemented using object-oriented technology (**Steinman**, Col 1, Technical Field of the Invention).

Claim 36

A method as recited in claim 31 wherein said components are loaded into a real time computer (**Steinman**, Col 1, Technical Field of the Invention), said method further comprising: executing said control system on said real-time computer; and executing said at least one component at said rate of execution which corresponds to said thread (**Gretta,** figure 8 - teaches the link master function block and the block schedule and figure 39 shows the interval set for a Process ID (PID - well known to be associated with an executable image).

Claim 37

Rational Rose teaches a method of mapping threads available on a real-time computer to components within control system (**Rose**, page 177, code generation based on OO modeling), said method comprising: receiving a plurality of components in a multi-level hierarchy that represent said control system (**Rose**, page 7, class view in browser and the design of the system in the development window with "My Class 1"); **Gretta** teaches defining at least one logical rate of execution at each level in said multi-level hierarchy (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image); for each component in a level of said multi-level hierarchy (Object Oriented implementation of Rational Rose and Steinman where the class hierarchies when instantiated into objects implement the model as per (**Rose**, page 177, code generation based on OO modeling), assigning said component to one of said logical rates (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image); and mapping said threads of said real-time computer through said multi-level hierarchy using said logical rates such that each of said components is assigned to a single one of said threads (**Gretta,** Figure 8

and 9A - basic blocks are components of an executable image), whereby an execution rate of each thread is assigned to each one of said components (**Gretta,** Figure 8 and 9A - basic blocks are components of an executable image). Although, the term control system is met by the **Rational Rose** in the broadest resoanable interpretation in view of the specification as a software system for controlling a real world solution. OO-CASE tools for developing Control Systems is intended use of the commercial product Rational Rose. What **Rational Rose** does not explicitely teach is the context of a control system for controlling external devices/ interfaces. It is the object oriented tool kit of **Steinman** who explicitely teaches the tool set as supporting interfaces to external devices such as actualors and sensors (Steinman, Figure #3) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Rational Rose 4.0 with **Steinman** because object oriented technology allows for linking of of the pieces of a system (**Steinman**, col 1, lines 26 - 32). However, neither references teach changing the execution control of a thread. It is **Gretta** who teaches the abiliy for a user to alter rate of execution for threads (Note basic blocks are the components of threads). Therefore it would ahve been obvious to combine the teachings of an object oriented tools kit as taught bu Rational Rose and Steinman with Gretta's ability to control thread execution rate because the ability to control devices in an automated process is essential for proper operations.

Claim 38

Rational Rose teaches a method of defining an executable image for a control system(**Rose**, page 13, Diagram Windows - list of design tools), said method comprising: receiving a plurality

of components that represent said control system (**Rose**, page 7, class view in browser and the design of the system in the development window with "My Class 1"); choosing a subset of said components (**Rose**, page 6 and 7, the ability to select from the list of classes in the browser) to correspond to said executable image (**Rose**, page 177, code generation based on OO modeling); identifying a name for said executable image and its corresponding subset of said components; and for each chosen component in said subset (**Rose**, page 7, the ability to name a class as shown in the diagram "My Class 1"), indicating in a file corresponding to said component that said component is part of said executable image for said control system whereby when said executable image is produced for said control system only said subset of said components that correspond to said executable image will be included (**Rose**, page 177, code generation based on OO modeling). Although, the term control system is met by the **Rational Rose** in the broadest resoanable interpretation in view of the specification as a software system for controlling a real world solution. What **Rational Rose** does not explicitely teach is the context of a control system for controlling external devices/ interfaces. It is **Steinman** who explicitely teaches the tool set as supporting interfaces to external devices such as actualors and sensors (Steinman, Figure #3) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Rational Rose 4.0 with **Steinman** because object oriented technology allows for linking of of the pieces of a system (**Steinman**, col 1, lines 26 - 32). However, neither references teach changing the execution control of a thread. It is **Gretta** who teaches the abiliy for a user to alter rate of execution for threads (Note basic blocks are the

components of threads). Therefore it would ahve been obvious to combine the teachings of an object oriented tools kit as taught bu Rational Rose and Steinman with Gretta's ability to control thread execution rate because the ability to control devices in an automated process is essential for proper operations.

Claim 39

A method as recited in claim 38 wherein said control system is an electromechanical control system (**Steinman**, Col 4, lines 5 - 15, process controllers to control sensors and actuators).

Claim 40

A method as recited in claim 38 wherein said control system is a real-time control system (**Steinman**, Col 1, Technical Field of the Invention).

Claim 41

A method as recited in claim 38 wherein said received components are presented in a graphical user interface and said element of choosing includes: selecting said subset of components using said graphical user interface (Class browser as per claim 1), whereby said subset of components are visually distinguished from components not in said executable image (**Rational Rose**, page 7, the view of the class in the subset such as "My Class 1" and the Browser list which contains all classes selected and not selected).

Claim 42

A method as recited in claim 38 wherein said received components represent a low level in a multi-level hierarchy of said control system (**Steinman,** Figure 3, sensors and actuators are

receivers and attached to Application blocks in an Object Oriented system), said method further comprising: presenting a high level of said hierarchy, said high level including said received components and a high level component; choosing a second executable image for said high level component; and choosing a third executable image for said control system that includes said executable image and said second executable image, whereby when said third executable image is produced for said control system only those components that correspond to said executable image and said second executable image will be included. (Interpreted as the Principles of inheritance which is part of the rejection in claim 1 with the association of the software generated and the principle of Messaging in Object Oriented technology - both principles are inherent in Object Oriented technology).

Claim 43

A method as recited in claim 38 wherein said components are computer objects and said control system is implemented using object-oriented technology (**Steinman**, Col 1, Technical Field of the Invention).

Claim 44

A method as recited in claim 38 further comprising: loading components corresponding to said executable image into a real-time computer; and executing said executable image on said real-time computer (**Steinman**, Abstract, the loading is performed via static or dynamic linking).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are summaries of a few of the prior art references made of record but not used in the rejection.

US Patent Literature

a. 6, 154, 680 - Filed October 7, 1997 An object oriented controller for connecting a real world device via the controller.

b. 5,546,301 - Filed July 19, 1994 Object Oriented control system development tool using a tool called COOL.

c. 5,838,563 - Object oriented implementation of a control system.

* Numerous Patents were included on the topic of changing thread control during execution.

Non Patent Literature

d. Object-Oriented Information Systems Planning and Implementation, David Taylor, 1992
A text book that shows background information on object technology including a clear and concise meaning of composite object on pages 44- 46. Terms that are implemented in commercial soutions and patent literature.

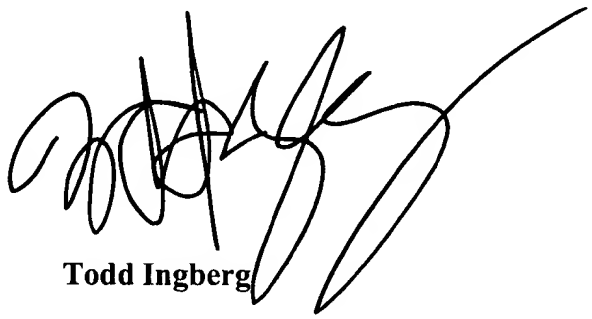
e. Visual Modeling with Rational Rose and UML, Terrel Quatrani, 1998
A text book that provides "how to" use information on the commercial product used in the rejection - Rational Rose version 4.0.

f. Unified Modeling Language UML, Booch & OMT Quick reference - A cheat sheet for the commercial product Rational Rose 4.0.

Correspondence Information

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Todd Ingberg** whose telephone number is **(703) 305-9775.** The Examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the **Examiner's Supervisor, Gregory Morse** be reached at **(703)308-4789.** Any response to this office action should be mailed to: **Director of Patents and Trademarks Washington, D.C. 20231**, or **Hand-delivered** responses should be brought to **Crystal Park II, 2121 Crystal Drive Arlington, Virginia, (Receptionist located on the fourth floor),** or **faxed.** The following **fax numbers** apply:

Official	**(703) 746 - 7239**
Non Official/ Draft	**(703) 746 -7240**
After Final	**(703) 746 - 7238**



Todd Ingberg

Patent Examiner

Art Unit 2122

August 9, 2002